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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,810	12/13/2003	Alan D. Eastman	07575.006	2782
57600	7590	04/20/2006	EXAMINER	
HOLLAND & HART LLP 60 E. SOUTH TEMPLE SUITE 2000 SALT LAKE CITY, UT 84111			TOOMER, CEPHIA D	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/734,810	EASTMAN ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Cephia D. Toomer	1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 30 January 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 33-40,43-46 and 75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 33-40,43-46 and 75 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                     | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)               |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ . | 6) <input type="checkbox"/> Other: _____ .  |

## **DETAILED ACTION**

This Office action is in response to the amendment filed January 30, 2006 in which claims 33-40 and 43-46 were amended.

The rejection of claim 35 is withdrawn in view of Applicant's arguments.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 33-40, 43-46 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over CA 2,342,824.

CA teaches a liquid fuel composition comprising 10-50 vol. % of at least two kinds of C<sub>2</sub>-C<sub>11</sub> alcohols, 40-60 vol. % of at least one kind of saturated or unsaturated hydrocarbons (naphtha) and 10-30 vol. % of at least one kind of ethers having two chain hydrocarbon groups whose number of carbon atoms is 6 or less (see abstract; page 3, first paragraph, last paragraph and page 4, last paragraph). The ethers include methyl tertiary butyl ether (MTBE), tertiary amyl methyl ether (TAME) and dibutyl ether (see page 4, fourth paragraph). CA teaches that conventional additives may be included in the fuel composition (see page 10, lines 4-9). CA teaches the limitations of the claims other than the differences that are discussed below.

In the first aspect, CA differs from the claims in that it does not specifically teach a mixture of ethanol and isobutanol (claim 37). However, it would have been obvious to one of ordinary skill in the art to have combined these alcohols because CA specifically teaches that at least two alcohols having 2-11 carbons may be combined to form the alcoholic component of the fuel composition.

In the second aspect, CA differs from the claims in that it does not specifically teach the claimed additives (claim 44). However, it would have been obvious to one of ordinary skill in the art to have included the claimed additives because CA teaches that conventional additives may be included in the fuel composition.

In the third aspect, CA differs from the claims in that it does not specifically teach the range of 60-65 wt. % alcohol (claim 33 and its dependents and 75). However, CA does teach that the composition may contain 50% of the alcohol and a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. v. Banner*, 227 USPQ 773 (Fed. Cir. 1985).

In the fourth aspect, CA differs from the claims in that it does not specifically teach the range of 35 wt. % naphtha (claim 46). However, CA does teach that the composition may contain 40-60% vol of naphtha and a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. v. Banner*, 227 USPQ 773 (Fed. Cir. 1985).

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In the fifth aspect, CA differs from the claims in that it does not specifically teach the Reid Vapor Pressure (RVP) of claim 43. However, it would have been obvious to one of ordinary skill in the art to have prepared a fuel composition possessing the claimed RVP because reformulated gasoline fuels that are formulated for internal combustion engines have a vapor pressure ranging from 8 to 15 psi, as disclosed as general knowledge in Applicant's specification (see page 2 paragraph 6).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 33-36, 38, 39, 40, 43, 44 and 75 are rejected under 35 U.S.C. 102(e) as being anticipated by Binions 20040107634.

Binions teaches a fuel composition comprising 10-80 vol. % of a first component comprising at least two aliphatic organic non-hydrocarbons; 20-65 vol.% of a second component comprising at least one hydrocarbon as the second component; 1-35 vol% of a third component which comprises an oxygenate (see abstract). The first component may be a mixture of alcohols such as ethanol, propanol, butanol, etc (see Examples 1-10). The second component may be derived from any petroleum source

such as light naphthas (see paragraph 0021). The third component may be methyl-t-butyl ether or ethyl-t-butyl ether (see paragraph 0027). The fuel composition may contain conventional additives such as stabilizers and antioxidant (see paragraph 0033). The RVP of the naphtha is from 5-13 psi (Table and paragraph 0023).

Accordingly, Binions teaching all the limitations of the claims anticipates the claims.

### ***Claim Rejections - 35 USC § 103***

5. Claims 37, 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binions 20040107634.

Binions has been discussed above. Binions teaches the limitations of the claims other than the differences that are discussed below.

Binions differs from the claims in that he does not specifically teach a mixture of ethanol and isobutanol. However, it would have been obvious to one of ordinary skill in the art to prepare a fuel comprising the mixture of ethanol and isobutanol given that Binions exemplifies alcohol mixtures as the first component. With respect to the proportions of these alcohols, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the proportions through routine experimentation for best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*,

617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

6. The evidence submitted is insufficient to establish a reduction to practice of the invention in this country or a NAFTA or WTO member country prior to the effective date of the Binions reference.

The exhibit provided by Applicant merely shows that a 2002 Toyota Camry was taken to the inspection station and that the vehicle passed the emission test. The passages that Applicant refers to in the present specification are directed to entirely different vehicles as shown by the VIN. There is nothing in Exhibit A that indicates that the fuel used in the Camry is the same fuel of the present invention.

Applicant argues that CA (Yoshiharu) does not provide an expectation that the claimed compositions would possess the same properties as those compositions of CA. Applicant argues that CA does not teach that either the alcohol or naphtha components overlap the present claimed ranges. Applicant argues that the examiner stretches the facts of the present invention far beyond the measure of *Titanium Metals Corp.*

CA and the present invention are both directed to the production of low emission or "clean fuels." Both references teach the combination of alcohol and naphtha to produce these low emission fuels. While CA prefers to use 50% alcohol as opposed to the claimed amount of 60%, the examiner maintains that the ranges are close enough that one skilled in the art of producing fuel composition would expect the compositions to have similar properties, especially in view of CA and the present invention being

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directed to the same field of endeavor. While the proportions in Titanium Metal differ by 0.05%, it should be recognized that the amount of the metals in an alloy are critical.

Applicant has shown no such criticality in the amount of the alcohol.

With respect to the amount of naphtha taught by CA, the amount of less than or equal to about 40%, as set forth in claim 33 overlaps the amount of 40% taught by CA. The term "about" is a warning that exactitude is not claimed but rather a contemplated variation. With respect to the amount of naphtha being 35%, the examiner maintains the position that the proportions are close enough that one skilled in the art would expect the compositions to have similar properties. Furthermore, CA demonstrates in Fig 2 and the table that a 55/45 and 80/20 alcohol/naphtha ratio produces the same results. At page 13, lines 5-13, CA teaches that it is preferable to make the volume percentage of the alcohol components to  $\frac{1}{2}$  or more than of the hydrocarbon (naphtha).

Applicant argues that US 4,695,292 teaches that combustible fuels falling within the claimed range would not be desirable or would have identical properties as fuels with 50% or less alcohol component. Applicant argues that it is known in the art that with increasing alcohol proportion a number of problems arise.

US '292 discusses lower alcohols; however, it is clear that it is referring to methanol. CA does not teach the use of methanol and furthermore teaches away from its use (see page 2, first paragraph; page 3, second paragraph).

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cephia D. Toomer whose telephone number is 571-272-1126. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Cephia D. Toomer  
Primary Examiner  
Art Unit 1714

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